

New England Power Company
Docket No. D.T.E. 03-128

Supplemental Responses to the Department's First Set of Information Requests

Information Request DTE 1-10

Request:

Please explain what value, if any, the project would have if Salem Harbor Station remains in operation.

Response:

Please see the pre-filed testimony of John W. Martin at page 5, holding the switchyard to a scheduled voltage of 119 kV (1.035 p.u.) with all lines in during heavy load periods requires approximately 135 MVar of reactive support. This is equivalent to a nominal 126 MVar at 115 kV. The table below summarizes the lagging reactive capabilities of the four Salem Harbor units, as obtained from NEPOOL NX-12D forms. Based on these values, it is clear that the Salem Harbor generators could not provide enough reactive support if unit 4 were not running, unless those units running were backed down. Reducing MW generation within the North Shore interface at peak load in such a situation, in order to maintain voltage criteria, would impact reliability negatively. For this reason, the capacitor addition is required regardless of the future operation of Salem Harbor Station.

Lagging Reactive Capabilities (MVar) as Function of Load			
Units	Normal Claimed	Half Load	Minimum Load
Salem Harbor Unit 1	32	47	54
Salem Harbor Unit 2	29	61	68
Salem Harbor Unit 3	50	80	97.5
Salem Harbor Unit 4	275	345	380
Units 1 thru 4	386	533	599.5
Units 1 thru 3	111	188	219.5

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Information Request DTE 1-10 (continued)

Since the date of the original response, additional information on the Salem units' reactive capabilities has been obtained. Specifically, the most recent NX-12D forms on file with ISO-NE have been obtained from REMVEC. The table below summarizes the three sources of Salem reactive data – that used in the original study, that contained in the NEPOOL OP-12 report, that from the most recent NX-12D forms. The line entries for Units 1 thru 3 and Unit 1 & 2 under the REMVEC data column show that, although the values may differ slightly from the original study, the original conclusion is still correct. The Salem generators could not provide enough reactive support if unit 4 were not running.

Lagging Reactive Capabilities (MVar) At Normal Claimed Capability					
Units	In Study Report	In NEPOOL OP 12	In NX-12D from REMVEC Dated:		Notes
Salem Harbor Unit 1	32	28	28	09/01/2003	
Salem Harbor Unit 2	29	37.5	32	10/01/2001	
Salem Harbor Unit 3	50	67	55	10/01/2001	(approx based on 144 MW NCC)
Salem Harbor Unit 4	275	275	270	09/01/2001	
Units 1 thru 4	386	407.5	385		
Units 1 thru 3	111	132.5	115		
Units 1 & 2	61	65.5	60		
		(Version dated 10/2/03)			

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New England Power Company
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Supplemental Responses to USGenNE's First Set of Information Requests

Information Request USGenNE 1-9

Request:

With respect to the Company's response to DTE-1-10, please explain why the Company chose to use the lagging reactive capabilities of the four Salem Harbor units reported in the NEPOOL NX-12D forms?

Response:

This was the best available data at the time. The Company has subsequently obtained the most recent NX-12D for on file with ISO-NE and has re-run its analysis based on that data. Please see the Company's supplemental response to DTE 1-10 for the result.

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Supplemental Responses to USGenNE's First Set of Information Requests

Information Request USGenNE 1-13

Request:

With respect to the Company's response to DTE-1-10, please indicate the total number of MWs a single unit at Salem Harbor would need to be "backed down" to achieve the stated goal of achieving 135 MV ars of reactive support.

Response:

The goal is 126 MVAR at a nominal 115 kV. From the table in DTE-1-10, without unit 4 there are only 111 MVAR available at Normal Claimed Capability. This is a deficit of 15 MVAR. Backing down Salem unit 1 from its normal claimed capability to "Half Load" would provide the required 15 MVAR additional. From our data, the difference between Normal Claimed Capability and Half Load would be approximately 30 MW.

Based on the recently obtained NX-12D data, there are only 115 MVAR available at Normal Claimed Capability without unit 4. However, the remainder of the analysis does not change significantly.